

## Healthcare in Montana: In Short Supply?

By Brad Eldredge, Ph.D.

Concern in Montana has grown over the ability of the healthcare workforce to keep up with demand, especially given the aging of the baby boom population. According to the 2004 American Community Survey, Montana already ranks tenth in the nation in the percentage of the population over 65. This is an issue that has not escaped the attention of policymakers. The Martz administration put together a blue ribbon taskforce on healthcare workforce shortage. More recently, the Board of Regents and the State Workforce Investment Board formed taskforces to address healthcare workforce issues. The Research and Analysis Bureau has been working to provide data to these two committees to help inform their decision making process. This article presents some of the available labor market data regarding the healthcare workforce in Montana.

### Population to Healthcare Worker Ratios

One indicator of a healthcare shortage would be low ratios of healthcare workers to population. To determine how Montana stacks up to the nation, the Research and Analysis Bureau calculated a ratio of ratios called a location quotient. Here is an example of how a location quotient works. If there is one nurse for every 200 people in Montana (or 0.005 nurses per person), and one nurse for every 100 people in America (or 0.01 nurses per person), then Montana's location quotient for nurses would equal 0.005 divided by 0.01, or 0.5. Location quotients greater than one indicate more healthcare workers in Montana per population than nationally, while location quotients less than one indicate fewer healthcare workers per population than nationally. Since demand for healthcare is largely a function of population, a low location quotient could identify an occupation in short supply in Montana.

As Table One shows, half of the occupations included in the analysis had location quotients greater than one, while the other half had location quotients of one or less. All but three of the occupations had a location quotient of at least 0.8, indicating that for most healthcare occupations,

Montana has a reasonable amount of workers given its population. The exceptions were medical assistants, physical therapy assistants, and medical and clinical laboratory technicians.

The Standard Occupational Classification Manual states that medical assistants "perform administrative and certain clinical duties under the direction of a physician." According to the Bureau of Labor Statistics Occupational Outlook Handbook, the medical assistants occupation is expected to be one of the fastest growing occupations from 2004 to 2014. Medical Assistant numbers are projected to grow partially because physicians value their flexibility. Physical therapy assistants have the second lowest location quotient at 0.65. Interestingly, the state has a higher than expected number of physical therapists. Physical therapists are qualified to perform the duties of physical therapy assistants. Perhaps there has been less substitution

**Table One.**

Occupation	LQ
Medical Assistants	0.58
Physical Therapy Assistants	0.65
Medical and Clinical Laboratory Technicians	0.71
Occupational Therapists	0.83
Occupational Therapist Assistants	0.86
Dental Assistants	0.94
Diagnostic Medical Sonographers	0.94
Pharmacy Techs	0.95
Home Health Aides	0.97
Registered Nurses	1.00
Respiratory Therapists	1.06
Surgical Technologist	1.10
Medical and Clinical Laboratory Technologists	1.18
Family and General Practitioners	1.19
Nursing Aides	1.21
LPNs	1.24
Radiologic Technologists and Technicians	1.25
Pharmacists	1.27
Physical Therapists	1.34
Medical Records and Health Information Technicians	1.38
Dentists, General	1.43

from physical therapists to physical therapy assistants in Montana than in other parts of the country. Medical and clinical laboratory technicians also had a low location quotient at 0.71. Once again, the state had a higher than expected number of medical and clinical laboratory technologists. Medical and clinical laboratory technicians generally work under the supervision of a technologist, and a technologist has the skills to perform all the duties of a technician. Therefore, as with physical therapist assistants, the lack of medical laboratory technicians may be due to the fact that in Montana a higher skilled worker is performing the duties that could be accomplished by a lower skilled worker.

### Regional Differences

Montana is a large state with much regional economic diversity. Therefore it is entirely possible that while the state as a whole is not experiencing a shortage of healthcare workers, certain regions of the state are struggling. Unfortunately, data constraints designed to protect the confidentiality of individuals and businesses only allow regional comparisons of some of the largest healthcare occupations. The maps below examine two such occupations, registered nurses (RNs) and licensed practical nurses (LPNs).

Figure One shows that the highest ratio of RNs to population is in the south-central region of the state that surrounds Yellowstone County. This is not surprising given the importance of Billings as a regional healthcare center. It is also encouraging that the far eastern and

north-central regions have better RN ratios than the two western regions. Caution should be used in interpreting these results however, given that these regions may need more nurses per population because the rural nature of the population does not permit healthcare providers to take advantage of the same economies of scale as urban providers. Also, the more rural parts of the state may need more nurses because their populations tend to be older than those of the state's urban centers. Figure Two shows similar regional trends to Figure One, with the exception that there seems to be a shortage of LPNs in the eastern part of the state relative to the rest of the regions.

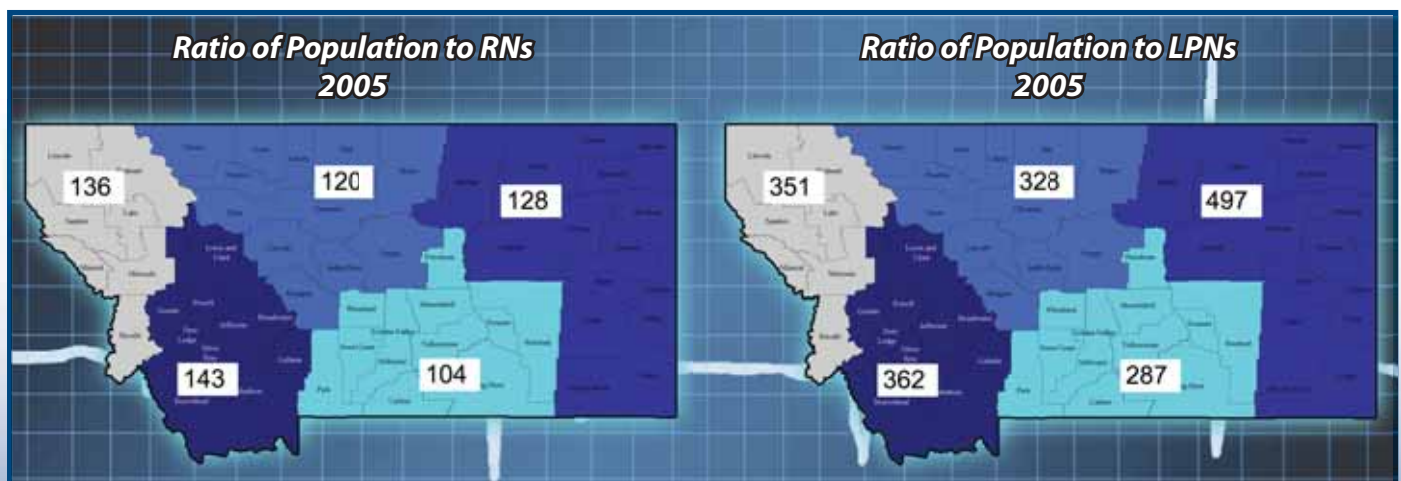
### Conclusion

With the exception of the three occupations with location quotients below 0.8, Montana does not appear to be in short supply of healthcare professionals relative to the rest of the nation. While regional differences in population to RN and LPN ratios exist, they do not appear to be severe with the possible exception of LPNs in the eastern portion of the state. This is encouraging in the short run, but it is important for healthcare providers, educators, and policy makers to monitor workforce trends as Montana's population continues to age.

Other issues regarding the healthcare workforce also need to be addressed. The fact that Montana's ratio of nurses to population is the same as the national number does not preclude the possibility that certain localities are experiencing difficulty in hiring and retaining qualified nurses.

**Figure One.**

**Figure Two.**



MAIL OR E-MAIL? If you would like us to e-mail you a reminder and a link to this publication on our website each month, e-mail us at: [mediacontacts4rad@mt.gov](mailto:mediacontacts4rad@mt.gov). Please include your mailing address as it appears on this publication and your e-mail address.